

PERU

By C.G. Soldi

Straddling the Andes and with a population of some 28 million, spread over an area of almost 1.3 million km², Peru has a diverse culture and climate. The western coastal plain bordering the Pacific Ocean rises abruptly to the east to the Andean range (including the 6,768 m peak of Nevada Huascara), and further east the Andes give way to the lowland jungle of the Amazon Basin. Its neighbours are Ecuador and Bolivia to the north and northeast, Brazil to the east and Chile in the far south.

Peru experienced 3.6% growth in GDP during 2003, and inflation for the year was 2.5%. The value of all Peruvian exports increased by 17% to US\$8.96 billion during 2003, and imports increased by 11% to US\$8.2 billion. Peru's net international currency reserves at the end of 2003 increased to US\$10.61 billion, 11% above that of the previous year.

The government headed by Alejandro Toledo continued to face internal difficulties as a result of political indecision and an inability to solve the increasing social demands of the poorest sectors of the population.

Among the most important news for the Peruvian mining sector during 2003 was the announcement made by Barrick Gold Corp of its decision to start construction of the Alto Chicama gold project during the first quarter of 2004, and the difficulties faced by Manhattan Minerals Corp concerning its Tambogrande project. At the end of 2003, the mining industry was shaken by a proposal submitted to Congress to impose a 3% royalty on gross sales. The government said that it was looking at the possibility of reducing the percentage and that it was considering also, whether the royalty could be regarded as an early instalment of income tax.

In December last year, the government agency, Centromin Peru, concluded that Manhattan had failed to comply with the contract conditions of the option agreement to maintain a 75% interest in the Tambogrande concessions, and that the agreement was therefore terminated. The decision was questioned by Manhattan, which announced it was taking the case to arbitration. Local opposition to the project, with support by anti-mining groups, obstructed the public hearings legally required for the approval of the environmental impact study for Tambogrande. Controversially, the US\$405 million project requires the relocation of 1,800 Tambogrande homes to the south of the town.

The Tambogrande option agreement with Centromin includes 10 mineral concessions covering 10,000 ha. Manhattan's 53,700 ha comprising the Lancones and Papayo concessions are not affected, and the company will focus its activities on exploration to the south of Tambogrande where it has already discovered the B-5 deposit.

Mineral production

The value of Peru's mine production grew by 21% to US\$5.6 billion during 2003 and output of most metals increased. The biggest increases were recorded for cadmium (16%), zinc (12%) and gold (9%). The value of mining products exported during the year also rose, by 21%, to US\$4.25 billion. Together, export earnings from mining and oil amounted to US\$4.91 billion, representing 60% of the country's total export income.

Copper

Peru's copper production in 2003 remained very close to that of the previous year, reaching 839,223 t, worth an estimated US\$1.34 billion. Copper exports totalled 787,300 t, valued at US\$1.26 billion (including the value of by-product silver contained in copper concentrates).

Southern Peru Copper Corp (SPCC) remained the largest copper producer, slightly increasing its output, to 371,415 t, from its mining operations at Toquepala and Cuajone. Antamina retained its position as the second-largest Peruvian copper producer, although output was 22% lower than in 2002, at 267,876 t. Cerro Verde remained the country's third-largest producer, reporting an output of 87,327 t, a slight increase on the previous year.

Tintaya more than doubled its output, to 51,644 t, having resumed production after temporarily suspending mining operations during 2002. Doe Run produced 16,225 t of copper from its Cobriza mine and Cia Minera Condestable increased production by 19%, to 11,227 t, after completing a plant expansion. Amongst the other producers, Cia Minera Raura went back into operation, producing 5,016 t; Atacocha increased its output to 3,111 t; Empresa Minera Los Quenuales (previously Yauliyacu) produced 4,499 t; Pan American Silver Corp reported output of 2,337 t from its Quiruvilca mine; Cia Minera Milpo 2,302 t; Cia Minera Colquisiri 2,232 t; and Cia Minera Huaron 2,121 t. Other medium and small-sized mines located throughout the country accounted for the remaining 11,860 t of copper produced during 2003.

The government is planning to auction the large Las Bambas copper deposit in July this year and 14 companies have pre-qualified for the auction.

Lead, zinc and silver

In 2003, Peru produced 307,705 t of lead 1,368,606 t of zinc and 2,775 t of silver. Exports were worth US\$201.3 million for lead (containing by-product silver), US\$528.7 million for zinc (also containing by-product silver) and US\$191.0 million for silver. Volcan Cia Minera remained the country's largest lead producer, with output of 54,254 t. The company also produced 224,382 t of zinc and 296 t of silver.

Cia Minera Antamina became Peru's largest zinc and silver producer, reporting outputs of 400,703 t and 316.8 t respectively. The company also produced 5,887 t of lead.

Cia de Minas Buenaventura SA was Peru's second-largest silver producer, with an output of 316.2 t. It also produced 6,889 t of lead and 7,235 t of zinc.

Cia Minera Atacocha remained the second-largest lead producer, with output of 39,420 t, plus 66,109 t of zinc and 147 t of silver. Empresa Minera Los Quenuales, the Glencore-owned mining company that now incorporates the Iscaycruz and the Yauliyacu mines, reported total production of 138,102 t of zinc, 8,984 t of lead and 183.2 t of silver. Cia Minera Milpo was the country's third-largest lead producer, with output of 30,003 t, plus 95,095 t of zinc and 133 t of silver.

Soc Minera El Brocal remained the country's fourth-largest lead producer, with 23,208 t, plus 58,457 t of zinc, and 90.8 t of silver. Empresa Administradora Chungar, the mining operation now administered by Volcan Cia Minera, produced 22,129 t of lead, 56,905 t of zinc and 52 t of silver, and Cia Minera Santa Luisa, the Mitsui Mining subsidiary, produced 20,487 t of lead, 44,601 t of zinc, and 46.8 t of silver from its Huanzalá mine. Pan American Silver produced 19,847 t of lead, 34,070 t of zinc and 249.7 t of silver from its Quiruvilca and Huaron mines, and Soc Minera Corona produced 16,096 t of lead, 27,498 t of zinc and 139 t of silver from its Yauricocha, Manuelita and Carolina mines.

Tin

Minsur remained Peru's only tin producer and its output for the year was 40,202 t from its San Rafael mine, a 4% increase on the previous year's production. Minsur also operates the Funsur tin smelting and refining installation located in Pisco, south of Lima.

Iron and steel

Shougang Hierro Peru, the country's only iron-ore producer, increased its production by 11% during 2003, reporting output of 3.5 Mt. The value of Peruvian iron exports during 2003 was US\$94.1 million for all iron products (pellets and sinter feed), 14% above that of 2002.

Gold

Peruvian gold production increased by 9% in 2003 (after a 13% increase in the preceding year) to reach 171,551 kg (5.5 Moz). Exports were valued at US\$2.05 billion, an increase of 38% over 2002. Gold represented 47% of the value of all mining exports in 2003 and 23% of Peru's total exports. Minera Yanacocha and Minera Barrick Misquichilca contributed 68% of the total output, informal gold miners contributed 17%, and Cia Minera Ares and Cia de Minas Buenaventura each contributed 3%.

Yanacocha maintained its position as Peru's largest gold producer. It increased output by 22% to 88,583 kg, representing 52% of all the gold produced in the country. Other important gold producers were: Minera Barrick Misquichilca, which reported an output of 28,358 kg from its Pierina mine, a figure slightly higher than that of the previous year; Cia Minera Ares, with 5,763 kg; Cia de Minas Buenaventura, with 5,655 kg; Minera Aurifera Retamas, with 5,181 kg; Consorcio Minero Horizonte, with 4,574 kg; Cia Minera Aurífera Santa Rosa, with 3,682 kg; Cia Minera Poderosa, with 2,501 kg; and Inversiones Mineras del Sur, with 1,707 kg.

Other medium and small mines contributed 12,700 kg, and an unknown number of informal miners accounted for 12,849 kg, or around 7% of the country's total gold production.

Barrick will invest around US\$110 million this year on construction at the Alto Chicama project, and expects to pour the first gold the third quarter of 2005. Reserves at the deposit, located in Peru's northern Andes, amount to some 7.2 Moz of contained gold, operating costs are anticipated to be about US\$135/oz and annual production is projected at about 540,000 oz over a mine life of at least ten years. There is optimism that more gold will be found in the vicinity of Alto Chicama and the company expects to spend US\$5 million on further exploration during 2004.

There has been considerable gold exploration activity in Peru over the past year. Much of it has been to the north of Yanacocha at La Zanja, where a resource of at least 900,000 oz has been delineated by a joint venture involving Buenaventura and Newmont Mining Corp, the operator at Yanacocha. At Marcapunta in the Colquijirca mining district, some 49 Mt averaging 1.9% Cu, 22 g/t Ag and 0.3 g/t Au have already been identified; at La Virgen, reserves of 7.2 Mt averaging 1.4 g/t have been proved; and at La Arena there is a porphyry hosting a 19.7 Mt resource averaging 1.07 g/t Au.

Peru's southern Andes are also generating considerable interest, not least as a result of the discovery and development of a large, low-grade gold deposit by the wholly-owned Peruvian company, Minera Aruntani. The deposit is located about 800 km southeast of Lima between the departments of Puno and Moquegua, and the company began open-pit production in March last year. It produced 120,000 oz during 2003, plus some 200,000 oz of silver, and expects to produce 200,000 oz in 2004 and build to 250,000 oz/y from 2005. Start-up costs for the mine are reported to have been just US\$25 million and the company says that production costs are around US\$150/oz. Mineras Aruntani hopes to increase reserves to about 3.0 Moz, has identified a further three gold districts within its 750 km² exploration licence area and is planning to spend US\$3 million on exploration.

The Rescatada gold deposit lies within the same gold belt, and although the owner, AngloGold Ashanti Ltd, is seeking offers for the project because it is too small, it will seek a 'back-in' clause in any sale or joint venture, in case the deposit proves to be larger than originally calculated. Newmont is focusing the bulk of its exploration in the north around Yanacocha, but has allocated US\$5-6 million on gold exploration in south and central Peru, and Minsur SA, Peru's largest tin miner, is reported to be exploring a promising gold prospect in the south at Santo Domingo.

Oil and gas

Peruvian crude oil production was 91,300 bbl/d in 2003, a 6% decrease on the previous year. The value of oil exports was US\$662.6 million (including US\$396.4 million worth of refined products). Imports amounted to US\$1.39 billion, indicating a trade deficit of US\$727 million. Oil exploration continued

during the year and was aimed mainly at finding new oilfields to reduce dependence on imports to cover the increasing local demand.

Pluspetrol remained the largest oil producer, accounting for 63% of total crude oil output (21.01 Mbbl), the balance being produced by Petrotech (13%), Perez Companc (13%), Sapet (4%) and the remaining 8% by other minor producers.

Natural gas production increased by 15%, to 499 million m³. The consortium formed by Techint and Pluspetrol of Argentina, Hunt Oil of the US, SK Corp of South Korea, Sonatrach of Algeria and Graña y Montero of Peru, continued with the development of the Camisea gas project, following submission and approval of the environmental impact study for the gas pipeline to transport the gas to the coast. This project is scheduled for completion by August 2004.

Mine Production (t unless stated otherwise)

Product	1998	1999	2000	2001	2002	2003^e
Gold	93.57	128.09	132.59	138.75	157.3	171.6
Silver	2,025	2,217	2,438	2,673	2,761	2,774
Copper ('000 t)	483	536	554	722	843	839
Lead ('000 t)	258	271	271	290	298	308
Zinc ('000 t)	869	899	910	1,057	1,222	1,369
Tin ('000 t)	25.7	30.4	30.4	38.2	38.8	40.2
Iron ore (Mt)	3.2	2.5	2.5	3.0	3.1	3.5
Molybdenum	4,300	5,500	7,200	9,500	8,600	9.6
Arsenic	624	1,611	2,495	2,800	2,970	655
Antimony	364	255	461	274	356	616
Bismuth	868	705	744	640	568	912
Cadmium	132	465	483	456	456	529
Indium	4.23	5.0	5.1	4.0	5.5	5.8
Selenium	18.0	23.0	23.0	16.0	20.6	24.2
Tellurium	21.68	17.0	22.0	19.0	21.6	26.3
Crude oil (Mbbl)	42	37	36	35	35	33

e – Estimate